Complete Summary

GUIDELINE TITLE

Practice management guidelines for stress ulcer prophylaxis.

BIBLIOGRAPHIC SOURCE(S)

Guillamondegui OD, Gunter OL Jr, Bonadies JA, Coates JE, Kurek SJ, De Moya MA, Sing RF, Sori AJ. Practice management guidelines for stress ulcer prophylaxis. Chicago (IL): Eastern Association for the Surgery of Trauma (EAST); 2008. 24 p. [58 references]

GUIDELINE STATUS

This is the current release of the guideline.

COMPLETE SUMMARY CONTENT

SCOPE

DISEASE/CONDITION(S)

Stress ulcer

GUIDELINE CATEGORY

Management
Prevention
Risk Assessment

CLINICAL SPECIALTY

Critical Care
Emergency Medicine
Family Practice
Gastroenterology
Internal Medicine
Physical Medicine and Rehabilitation
Surgery

INTENDED USERS

Advanced Practice Nurses
Allied Health Personnel
Nurses
Physician Assistants
Physicians

GUIDELINE OBJECTIVE(S)

To provide guidelines for stress ulcer prophylaxis in trauma patients

TARGET POPULATION

Critically ill patients at risk for stress ulcers

INTERVENTIONS AND PRACTICES CONSIDERED

Identification of Risk Factors

1. Mechanical ventilation
2. Coagulopathy
3. Traumatic brain injury
4. Major burn injury
5. Intensive care unit patients with:
    - Multi-trauma
    - Sepsis
    - Acute renal failure

Treatment

1. Timing and duration of treatment
2. Medications
    - Histamine-2 receptor antagonists
    - Proton pump inhibitors
    - Cytoprotective agents
    - Antacids
    - Enteral feeding
    - No prophylaxis

MAJOR OUTCOMES CONSIDERED

- Gastrointestinal bleeding

- Mortality

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

A MEDLINE search was performed from the years 1990 to present with the following subject words: Gastrointestinal prophylaxis, gastrointestinal hemorrhage, intensive care unit, stress ulcer prophylaxis, trauma, and critical care. All articles pertaining to the critically ill patient were reviewed by 8 trauma intensivists for adequacy and pertinence to the subject.

NUMBER OF SOURCE DOCUMENTS

The initial literature review identified 119 articles. Of these, 73 were removed secondary to inadequate or inappropriate data. A table of evidence was constructed using the 46 references that were identified.

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Weighting According to a Rating Scheme (Scheme Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Class I: A prospective randomized clinical trial

Class II: A prospective non-comparative clinical study or a retrospective analysis based on reliable data

Class III: A retrospective case series or database review

METHODS USED TO ANALYZE THE EVIDENCE

Systematic Review with Evidence Tables

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

The article was entered into a review data sheet that summarized the main conclusions of the study and identified any deficiencies. Reviewers classified each references Class I, Class II or Class III data.

The references were classified using methodology established by the Agency for Health Care Policy and Research (AHCPR) of the U. S. Department of Health and Human Services. Additional criteria and specifications were used for Class I

articles from a tool described by Oxman et al., (Oxman AD. Checklists for review articles. *BMJ* 1994;309:648-651).

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

Recommendations from the practice management guideline committee were made on the basis of studies that were included in the evidentiary table. The quality assessment instrument applied to references was that developed by the Brain Trauma Foundation and subsequently adopted by the EAST Practice Management Guidelines Committee (see "Availability of Companion Documents" field). Recommendations were categorized based on the class of data from which they were derived.

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Level 1: The recommendation is convincingly justifiable based on the available scientific information alone. This recommendation is usually based on Class I data, however, strong Class II evidence may form the basis for a level 1 recommendation, especially if the issue does not lend itself to testing in a randomized format. Conversely, low quality or contradictory Class I data may not be able to support a level 1 recommendation.

Level 2: The recommendation is reasonably justifiable by available scientific evidence and strongly supported by expert opinion. This recommendation is usually supported by Class II data or a preponderance of Class III evidence.

Level 3: The recommendation is supported by available data but adequate scientific evidence is lacking. This recommendation is generally supported by Class III data. This type of recommendation is useful for educational purposes and in guiding future clinical research.

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

Not stated

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

Not applicable

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

The levels of recommendation (1-3) and the classes of evidence (I–III) are defined at the end of the "Major Recommendations" field.

What are the risk factors for stress ulcer development and which patients require prophylaxis?

1. Level 1 recommendations
    i. Prophylaxis is recommended for all patients with:
        1. Mechanical ventilation
        2. Coagulopathy
        3. Traumatic brain injury
        4. Major burn injury

2. Level 2 recommendations
    i. Prophylaxis is recommended for all Intensive Care Unit (ICU) patients with:
        1. Multi-trauma
        2. Sepsis
        3. Acute renal failure

3. Level 3 recommendations
    i. Prophylaxis is recommended for all ICU patients with:
        1. Injury Severity Score (ISS) >15
        2. Requirement of high-dose steroids (>250 mg hydrocortisone or equivalent per day)

    ii. In selected populations, no prophylaxis is necessary

Is there a preferred agent for stress ulcer prophylaxis? If so, which?

1. Level 1 recommendations
    i. There is no difference between H_2 antagonists, cytoprotective agents, and some proton pump inhibitors
    ii. Antacids should not be used as stress ulcer prophylaxis.

2. Level 2 recommendations
    i. Aluminum containing compounds should not be used in patients on dialysis

3. Level 3 recommendations
    i. Enteral feeding alone may be insufficient stress ulcer prophylaxis

What is the duration of prophylaxis?

1. Level 1 recommendations
    i. There were no level 1 recommendations

2. Level 2 recommendations
    i. During mechanical ventilation or intensive care unit stay

3. Level 3 recommendations
    i. Until able to tolerate enteral nutrition

Definitions:

Classes of Evidence

Class I: A prospective randomized clinical trial.

Class II: A prospective non-comparative clinical study or a retrospective analysis based on reliable data.

Class III: A retrospective case series or database review.

Levels of Recommendation

Level 1: The recommendation is convincingly justifiable based on the available scientific information alone. This recommendation is usually based on Class I data, however, strong Class II evidence may form the basis for a level 1 recommendation, especially if the issue does not lend itself to testing in a randomized format. Conversely, low quality or contradictory Class I data may not be able to support a level 1 recommendation.

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Level 3: The recommendation is supported by available data but adequate scientific evidence is lacking. This recommendation is generally supported by Class III data. This type of recommendation is useful for educational purposes and in guiding future clinical research.

CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of supporting evidence is identified and graded for each recommendation (see the "Major Recommendations" field).

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

Prevention of stress ulcers

POTENTIAL HARMS

The development of clinically significant gastrointestinal hemorrhage has been associated with significant increase of morbidity and mortality. Increase of mortality may be increased as high as 50%.

CONTRAINDICATIONS

CONTRAINDICATIONS

- *Cytoprotective agents*

  One study showed increased potential of aluminum toxicity using sucralfate in patients with renal impairment.

- *Antacids*

  Use of antacids has been associated with a potential increase in the risk of hemorrhage. These agents also have been implicated in an increase in mortality, and are currently not recommended for use.

- *Enteral feeding*

  There is controversy with regard to enteral nutrition administration in the setting of hemodynamic instability requiring pressor agents. Enteral feeding also has failed to show significant increases in gastric pH. There is controversy regarding protective effects of enteral nutrition and whether it is enough to warrant discontinuation of stress ulcer prophylaxis.

QUALIFYING STATEMENTS

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- The Eastern Association for the Surgery of Trauma (EAST) is a multi-disciplinary professional society committed to improving the care of injured patients. The Ad hoc Committee for Practice Management Guideline Development of EAST develops and disseminates evidence-based information to increase the scientific knowledge needed to enhance patient and clinical decision-making, improve health care quality, and promote efficiency in the organization of public and private systems of health care delivery. Unless specifically stated otherwise, the opinions expressed and statements made in this publication reflect the authors' personal observations and do not imply endorsement by nor official policy of the Eastern Association for the Surgery of Trauma.
- "Clinical practice guidelines are systematically developed statements to assist practitioner and patient decisions about appropriate health care for specific clinical circumstances."* These guidelines are not fixed protocols that must be followed, but are intended for health care professionals and providers to

consider. While they identify and describe generally recommended courses of intervention, they are not presented as a substitute for the advice of a physician or other knowledgeable health care professional or provider. Individual patients may require different treatments from those specified in a given guideline. Guidelines are not entirely inclusive or exclusive of all methods of reasonable care that can obtain/produce the same results. While guidelines can be written that take into account variations in clinical settings, resources, or common patient characteristics, they cannot address the unique needs of each patient nor the combination of resources available to a particular community or health care professional or provider. Deviations from clinical practice guidelines may be justified by individual circumstances. Thus, guidelines must be applied based on individual patient needs using professional judgment.

*Institute of Medicine. Clinical practice guidelines: directions for a new program. MJ Field and KN Lohr (eds) Washington, DC: National Academy Press. 1990: pg 39.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Getting Better
Staying Healthy

IOM DOMAIN

Effectiveness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

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ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

2008

GUIDELINE DEVELOPER(S)

Eastern Association for the Surgery of Trauma - Professional Association

SOURCE(S) OF FUNDING

Eastern Association for the Surgery of Trauma (EAST)

GUIDELINE COMMITTEE

EAST Practice Management Guidelines Committee

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Committee Members: Oscar D. Guillamondegui, MD (*Chairman*) Vanderbilt University Medical Center; Oliver L. Gunter, Jr., MD (*Vice-Chair*) Washington University, St. Louis; John A. Bonadies, MD, Hospital of Saint Raphael; Jay E. Coates, DO, University of Nevada, Las Vegas; Stanley J. Kurek, DO, University of Tennessee; Marc A. De Moya, MD, Massachusetts General Hospital; Ronald F. Sing, DO, Carolinas Medical Center; Alan J. Sori MD, St. Joseph Medical Center

FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

GUIDELINE STATUS

This is the current release of the guideline.

GUIDELINE AVAILABILITY

Electronic copies: Available in Portable Document Format (PDF) from the Eastern Association for the Surgery of Trauma (EAST) Web site.

Print copies: Available from the Eastern Association for the Surgery of Trauma Guidelines, c/o William J. Bromberg, MD, FACS, Memorial Health University Medical Center, Savannah Surgical Group, Inc., 4700 Waters Avenue, Savannah, GA 31404; Phone: (912) 350-7412; Email: guidelines@east.org

AVAILABILITY OF COMPANION DOCUMENTS

The following is available:

- Utilizing evidence based outcome measures to develop practice management guidelines: a primer. 18 p. 2000. Available in Portable Document Format (PDF) from the Eastern Association for the Surgery of Trauma (EAST) Web site.

PATIENT RESOURCES

None available

NGC STATUS

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